

MNSTPSKLLPIDKSHLQLQPQSSSASIFNSPTKPLNFPRTNSKPSLDPNSSSDT
YTSEQDQEKGKEEKDQAFQTSFDRNFDLDNSIDIQQTIQHQQQQPQQQQQLS
QTDNNLIDEFSFQTPMTSTLDLTKQNPTVDKVNENHAPTYINTSPNKSIMKKATPK
ASPKKVAFTVTNPEIHHYPDNRVEEEDQSQQKEDSVEPPLIQHQWKDPSQFNYS
DEDTNASVPPTPPLHTTKPTFAQLLNKNNEVNSEPEALDMDKLKRENFNSLSLDE
KVNLYLSPTNNNNNSKNVSDMDSHLQNLQDASKNKTNENIHNLFSALKAPKNDIEN
PLNSLTNADISLRSSGSSQSSLQSLRNDNRVLESVPGSPKKVNPGLSLNDGIKGF
SDEVVESLLPRDLSRDKLETTKEHDAPEHNNENFIDAKSTNTNKGQLLVSSDDHL
DSFDRSYNHTEQSILNLLNSASQSQISLNALEKQRQTQEQEQTQAAEPEEETSFS
DNIKVKQEPKSNLEFVKVTIKKEPVSAIEKAPKREFSSRILRIKNEDEIAEPADIHP
KKENEANSHVEDTDALLKKALNDDEESDTTQNSTKMSIRFHIDSDWKLEDSNDG
DREDNDDISRFEKSDILNDVSQTSDIIGDKYGNSSSEITTKTLAPPRSDNNDKENS
KSLEDPANNEQLQQLEVPHTKEDDSILANSSNIAPPEELTLPVVEANDYSSFND
VTKTFDAYSSFEESLSREHETDSKPINFISIWHKQEKQKKHQHKVPTKQIIASYQQ
YKNEQESRVTSDKVKIPNAIQFKFKEVNVMSRRVSPDMDDLNVSQFLPELSE
DSGFKDLNFANYSNNTNRPRSFTPLSTKNVLSNIDNDPNVVEPPEPKSYAEIRNA
RRLSANKAAPNQAPPLPPQRQPSSTRSNSNKRVSFRVPTFEIRRTSSALAPCD
MYNDIFDDFGAGSKPTIKAEGMKTLPMDKDDVKRILNAKKGVTQDEYINAKLVD
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PTALLSADRLFMEQEVHPLRSNSVLVHPGAGAATNSSMLPEPDFELINSPARNVS
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SAPETPRTPTKKESISSKPAKLSSASPRKSPIKIGSPVRVIKNGSIAGIEPIPKATH
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NKDVQHKPREKQKQKHHHRHHHHHHKQKTDIPGVVDDEIPDVGLQERGKLFRR
VLGIKNINLPDINTHKGRFTLTLDNGVHCVTTPPEYNMDDHNVAIGKEFELTVADSL
EFILTLKASYEKPRGTLVEVTEKKVVKSRNRLSRLFGSKDIITTTKFPVTEVKDTWA
NKFAPDGSFARCYIDLQQFEDQITGKASQFDLNCFNWETMSNGNQPMKRGKP
YKIAQLEVKMLYVPRSDPREILPTSIRSAYESINELNNEQNNYFEGYLHQEGGDC
PIFKKRFFKLMGTSLLAHSEISHKTRAKINLSKVVDLIYVDKENIDRSNHRNFSDVL
LLDHAFKIKFANGELIDFCAPNKHEMKIWIQNLQEIIYRNRFRRQPVVNLMLQQQ
QQQQQQQSSQQ

FIGURE 1

1 cccaaaaaag ataaaataaa aacaaaacaa aacaaaagta ctaacaaatt attgaaactt
61 ttaattttta ataaagaatc agtagatcta ttgttaaaag aaatgaactc aactccaagt
121 aaattattac cgatagataa acatttcat ttacaattac agcctcaatc gtcctcggca
181 tcaatattta attcccaac aaaaccattg aatttccca gaacaaattc caagccgagt
241 ttatgccaa attcaagctc tgatacctac actagcgaac aagatcaaga gaaagggaaa
301 gaagagaaaa aggacacagc ctttcaaaca tctttgata gaaattttga tcttgataat
361 tcaatcgata tacaacaaac aattcaacat cagcaacaac agccacaaca acaacaacaa
421 ctctcacaaa ccgacaataa ttaattgat gaattttctt ttcaaacacc gatgactcg
481 actttagacc taaccaagca aaatccaact gtggacaaag tgaatgaaaa tcatgcacca
541 acttatataa atacctccc caacaaatca ataatgaaaa aggcaactcc taaagcgtca
601 cctaaaaaag ttgcatttac tgaactaat cccgaaattc atcattatcc agataataga
661 gtcgaggaag aagatcaaag tcaacaaaaa gaagattcag ttgagccacc ctaatacaa
721 catcaatgga aagatccttc tcaattcaat tattctgatg aagatacaaa tgcttcagtt
781 ccaccaacac caccacttca tacgacgaaa cctacttttg cgcaattatt gaacaaaaac
841 aacgaagtca atctggaacc agaggcattg acagatatga aattaaagcg cgaaaattc
901 agcaatttat cattagatga aaaagtcaat ttatatctta gtcccactaa taataacaat
961 agtaagaatg tgcagatat ggtctgcat ttacaaaact tgcaagacgc ttgaaaaac
1021 aaaactaatg aaaatattca caatttgtca ttgtcttaa aagcaccaaa gaatgatatt
1081 gaaaacccat taaactcatt gactaacgca gatattctgt taagatcatc tggatcatca
1141 caatcgtcat tacaatcttt gaggaatgac aatcgtgtct tggatcagt gcctgggtca
1201 cctaagaagg ttaactctgg attgtcttg aatgacggca taaaggggtt ctctgatgag
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1321 catgatgcac cagaacacaa caatgagaat tttattgatg ctaaatcgac taataccaat
1381 aagggacaac tottagtate atctgatgat catttgact ctttgatag atcctataac
1441 cactgaac aatcaatttt gaatctttg aatagtgcac cacaatcfa aatttcgtta
1501 aatgcattgg aaaaacaaag gcaaacacag gaacaagaac aaacacaagc ggcagagcct
1561 gaagaagaaa ctctgttag tgataatate aaagttaaac aagagccaaa gagcaatttg
1621 gagtttgtca aggttaccat caagaaagaa ccagttctgg ccacggaaat aaaagctcca
1681 aaaagagaat ttcaagtcg aatattaaga ataaaaaatg aagatgaaat tgccgaacca
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1921 agagaagata atgatgatat ttctgtttt gagaaatcag atattttgaa cgacgtatca
1981 cagacttctg atattattgg tgacaaatat ggaaactcat caagtgaat aaccacaaa
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2101 ccagctaata atgaatcatt gcaacaacaa ttggaggtag cgcatacaaa agaagatgat
2161 agcattttag ccaactcgtc caatattgct ccacctgaag aattgacttt gcccgtagtg
2221 gaagcaaattg attattcatc tttaattgac gtgacacaaa ctttgatgc atactcaagc
2281 ttgaagagt cattatctag agagcacgaa actgattcaa aaccaattaa ttcatatca
2341 atttggcata aacaagaaaa gcagaagaaa catcaaattc ataaagtcc aactaaacag
2401 atcattgcta gttatcaaca atacaaaaac gaacaagaat ctctgtttac tagtgataaa
2461 gtgaaaatcc caatgccat acaattcaag aaattcaaag aggtaaatgt catgtcaaga
2521 agagttgtta gtccagacat ggtatgttg aatgtatctc aattttacc agaattatct
2581 gaagactctg gatttaaaga ttgaatttt gccaactact ccaataacac caacagacca
2641 agaagttta ctccattgag cactaaaaat gtctgtcga atattgataa cgatccta

FIGURE 2A

2701 gttgtgaac ctctgaacc gaaatcatat gctgaaatta gaaatgctag acggttatca
 2761 gctaataagg cagcgccaaa tcaggcacca ccattgccac cacaacgaca accatcttca
 2821 actcgtcca attcaaataa acgagtgacc agatttagag tgcccacatt tgaattaga
 2881 agaacttctt cagcattagc acctgtgac atgtataatg atattttga tgatttcggt
 2941 gcgggttcta aaccaactat aaaggcagaa ggaatgaaaa cattgccaaag tatggataaa
 3001 gatgatgtca agaggatttt gaatgcaaag aaagggtgtga ctcaagatga atatatat
 3061 gccaaacttg ttgatcaaaa acctaaaaag aattcaattg tcaccgatcc cgaagaccga
 3121 tatgaagaat tacaacaaac tgcctctata cacaatgccca ccattgattc aagtattat
 3181 ggccgaccag actccatttc taccgacatg ttgccttata ttagtatga attgaaaaaa
 3241 ccacctacgg ctttattatc tgctgatcgt ttgtttatgg aacaagaagt acatccgtta
 3301 agatcaaact ctgttttggg tccccagggg gcaggagcag caactaattc ttaattgta
 3361 ccagagccag attttgaatt aatcaattca cctgctagaa atgtgctgaa caacagtgt
 3421 aatgtgccca tcagtgttaa tgctagtact attagtttta accaattgga tatgaattt
 3481 gatgaccaag ctacaattgg tcaaaaaatc caagagcaac ctgctcaaa atccgccaat
 3541 actgttcgtg gtgatgatga tggattggcc agtgcacctg aaacaccaag aactctacc
 3601 aaaaaggagt ccatacaag caagcctgcc aagctttctt ctgcctcccc tagaaaatca
 3661 ccaattaaga ttggttcacc agttcgagtt attaaagaaa atggatcaat tgctggcatt
 3721 gaaccaatcc caaaagccac tcacaaaccg aagaaatcat tccaaggaaa cgagatttca
 3781 aaccataaag tacgagatgg tggaatttca ccaagctccg gatcagagca tcaacagcat
 3841 aatcctagta tggtttctgt tcttcacag tatactgatg ctactcaac ggttcagat
 3901 gaaaacaaag atgttcaaca caagcctcgt gaaaagcaaa agcaaaagca tcaccatcgc
 3961 catcatcatc atcatcataa acaaaaaact gatattccgg gtgttgtga tgatgaaat
 4021 cctgatgtag gattacaaga acgaggcaaa ttattcttta gagttttagg aattaagaat
 4081 atcaatttac ccgatattaa tactacacaa ggaagattca cttaacgtt ggataatgga
 4141 gtgcatttg tttactacacc agaatacaac atggacgacc ataattgtgc cataggttaa
 4201 gaatttgagt tgacagttgc tgattcatta gagtttattt taactttgaa ggcatcatat
 4261 gaaaaacctc gtggtacatt agtagaagtg actgaaaaga aagttgtcaa atcaagaaat
 4321 agattgagtc gattatttgg atcgaaagat attatcacca cgacaaagtt tgtgccact
 4381 gaagtcaaag atacctgggc taataagttt gctcctgatg gttcatttgc tagatgttac
 4441 attgatttac aacaatttga agaccaaata accggtaaag catcacagtt tgatctcaat
 4501 tgttttaatg aatgggaaac tatgagtaat ggcaatcaac caatgaaaag aggcaaacct
 4561 tataagattg ctcaattgga agttaaaatg ttgtatgttc eacgatcaga tccaagagaa
 4621 atattaccaa ccagcattag atccgcatat gaaagcatca atgaattaaa caatgaacag
 4681 aataattact ttgaagggtta ttacatcaa gaaggaggtg attgtccaat ttttaagaaa
 4741 cgttttttca aattaatggg cacttcttta ttggctcata gtgaaatata tcataaaact
 4801 agagccaaaa ttaatttatc aaaagttgtt gatttgattt atgttgataa agaaaacatt
 4861 gatcgttcca atcatcgaaa tttagtgat gtgttattgt tggatcatgc attcaaaatc
 4921 aaatttgcta atggtgagtt gattgatttt tgtgctccta ataaacatga aatgaaaata
 4981 tggattcaaa atttacaaga aattatctat agaaatcggg tcagacgtca accatgggta
 5041 aatttgatgc ttaacaaca acaacaaca caacaacaac aaagctccca acagtaattg
 5101 aaaggcttac ttttgatttt ttaatttta attggcaaat atatgcccatt tttgtattat
 5161 ctttagtct aatagcgttt tcttttttc cagt

FIGURE 2B

Activation of "Subtilisin-like" Proprotein Convertases

| | | | |
|----------------|-----------------------------|--------------------------------|--|
| Signal peptide | <u>Propeptide</u> Xn-K/R | Inactive Subtilisin D H N S | <u>P-Domain</u> D - H - N <RGD> S Substrate = K/R↓ |
|----------------|-----------------------------|--------------------------------|--|

The processing or "P-domain" clips the propeptide at the carboxy terminal side of dibasic residues, thereby releasing the propeptide. Exposed D-H-N-S active site residues assume the subtilisin serine protease conformation.

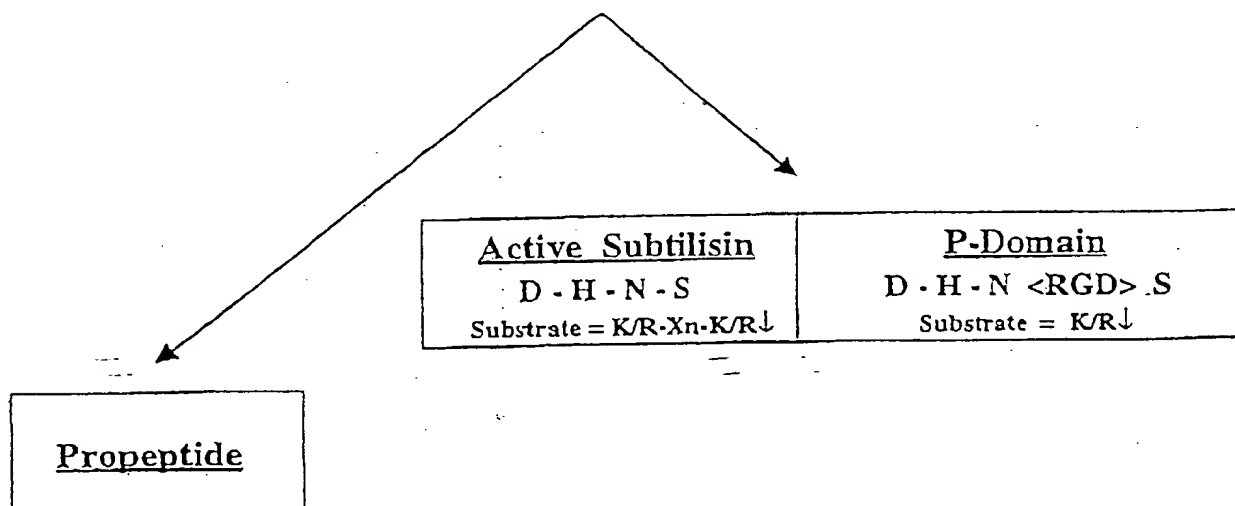
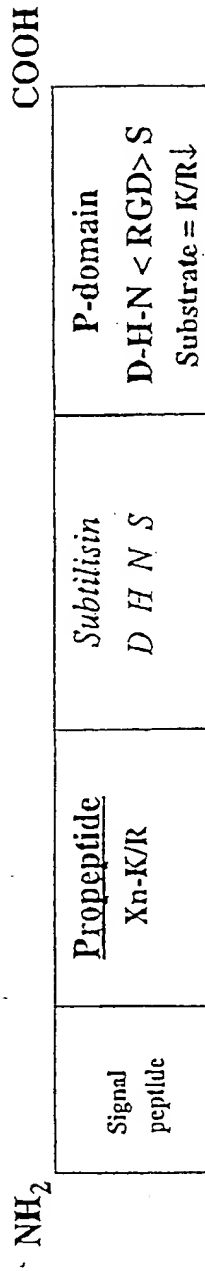


FIG. 3

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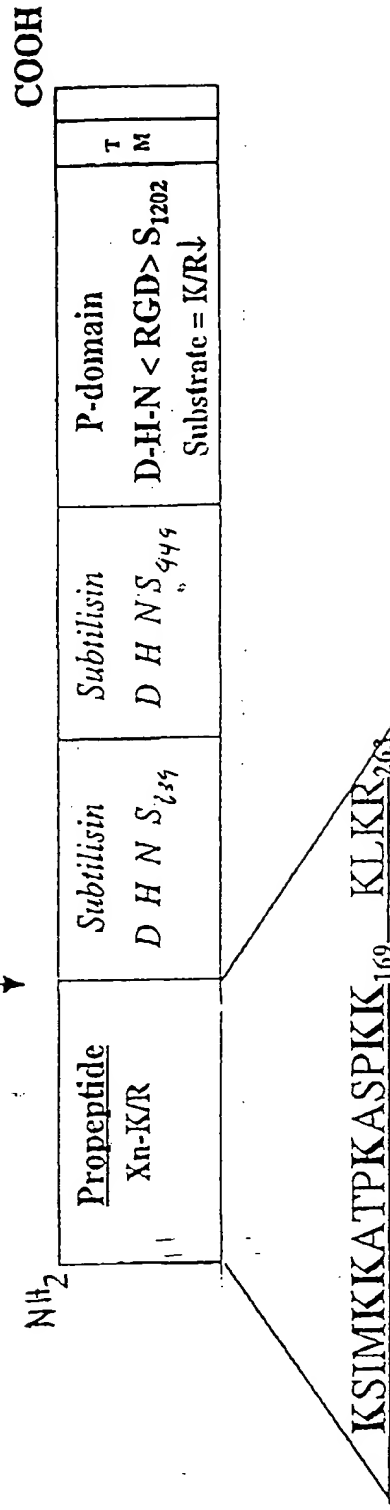
Amino terminal processing of Int1p

Proprotein Convertase



↑ clip ↑ clip

Int1p



↓ Superantigen ↓ Subtilisin

P Domain Subtilisin Motifs

| | | | | |
|--------------------|--------------------------|--------------------------|--|----------------------------------|
| <u>Kex2</u> | <u>D</u> ₁₇₉ | <u>H</u> ₂₁₃ | <u>N</u> ₃₁₄ | <u>S</u> ₃₇₈ = 199aa |
| | | | < <u>R</u> ₃₁₈ <u>GD</u> > | |
| <u>Furin</u> | <u>D</u> ₃₅₅ | <u>H</u> ₃₉₅ | <u>N</u> ₄₇₉ | <u>S</u> ₅₅₅ = 200aa |
| | | | < <u>R</u> ₄₉₈ <u>GD</u> > | |
| <u>Int1p</u> | <u>D</u> ₁₀₂₂ | <u>H</u> ₁₀₆₄ | <u>N</u> ₁₁₄₆ | <u>S</u> ₁₂₃₆ = 215aa |
| | | | < <u>R</u> ₁₁₄₉ <u>GD</u> > | |
| <u>CD18</u> | <u>D</u> ₂₉₀ | <u>H</u> ₃₀₉ | <u>N</u> ₃₅₁ | <u>S</u> ₄₉₀ = 200aa |
| | | | < <u>R</u> ₃₉₇ <u>GD</u> > | |
| <u>C3</u> | <u>D</u> ₁₂₄₅ | <u>H</u> ₁₂₈₉ | <u>N</u> ₁₃₂₇ | <u>S</u> ₁₄₃₀ = 185aa |
| | | | < <u>R</u> ₁₃₉₃ <u>GD</u> > | |
| <u>SpeB</u> | <u>D</u> ₁₃₅ | <u>H</u> ₁₅₉ | <u>N</u> ₂₉₅ | <u>S</u> ₃₂₄ = 189aa |
| | | | < <u>R</u> ₃₀₇ <u>GD</u> > | |
| <u>Fibrillin</u> | <u>D</u> ₉₃₀ | <u>H</u> ₉₇₁ | <u>N</u> ₁₀₅₂ | <u>S</u> ₁₁₂₉ = 199aa |
| | | | < <u>R</u> ₁₀₅₃ <u>GD</u> > | |
| <u>EGF</u> | <u>D</u> ₂₁₉ | <u>H</u> ₂₈₆ | <u>N</u> ₃₁₂ | <u>S</u> ₄₀₃ = 184aa |
| | | | < <u>R</u> ₃₆₃ <u>GD</u> > | |
| <u>Fibronectin</u> | <u>D</u> ₁₃₆₅ | <u>H</u> ₁₃₉₆ | <u>N</u> ₁₄₈₈ | <u>S</u> ₁₅₆₅ = 200aa |
| | | | < <u>R</u> ₁₅₆₅ <u>GD</u> > | |

FIG. 5

Comparison of the high affinity heparin-binding site of
Mycobacterium tuberculosis heparin-binding hemagglutinin
adhesin (HBHA) with the proposed heparin-binding site of
Candida albicans Int1p

| | |
|-------|--|
| HBHA | <u>K</u> ₁₈₀ AAA <u>KK</u> APA <u>KK</u> AAA <u>KK</u> ₁₉₅ |
| Int1p | <u>K</u> ₁₅₅ SIM <u>KK</u> ATP <u>K</u> ASP <u>KK</u> ₁₆₉ |

FIG. 6

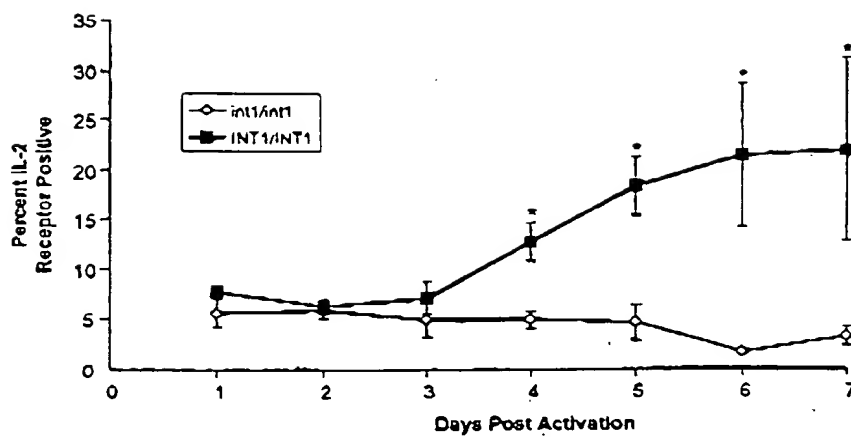


FIG. 7

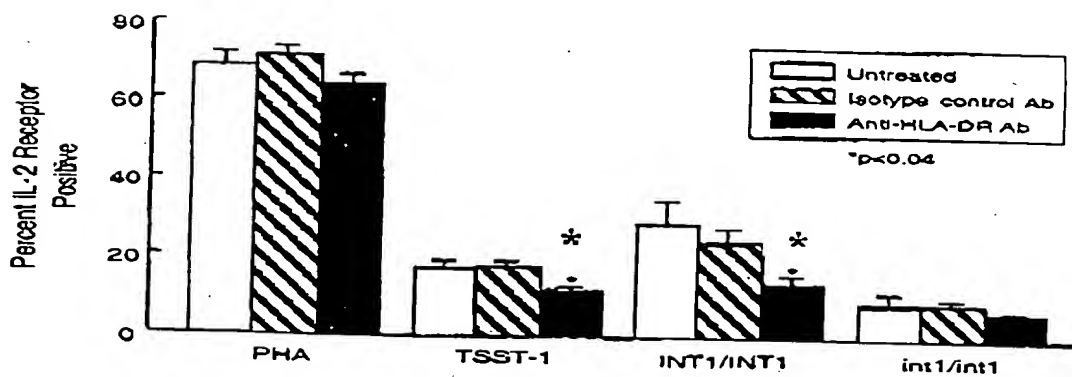


FIG. 8

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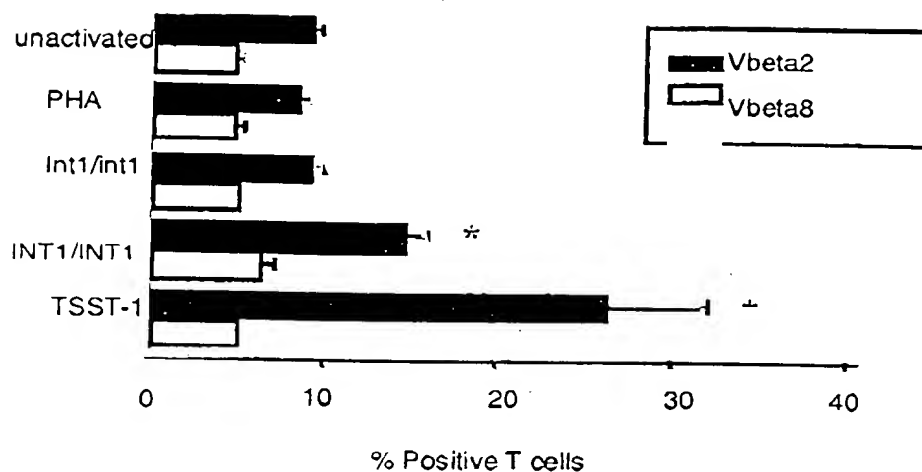


FIG. 9

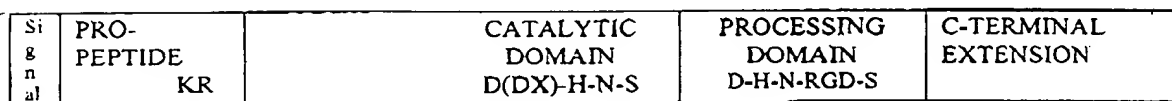


FIG. 10

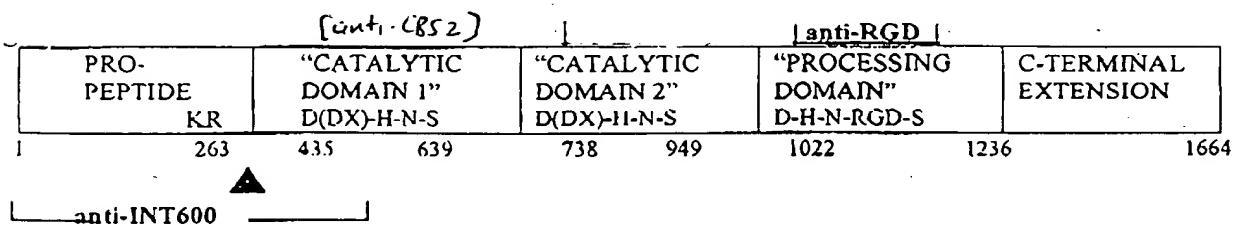


FIG. 11

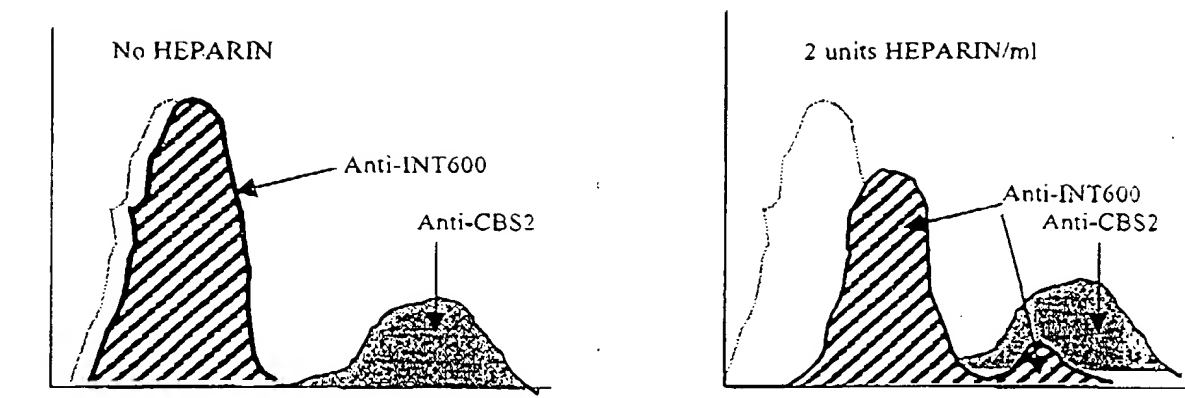


FIG. 12

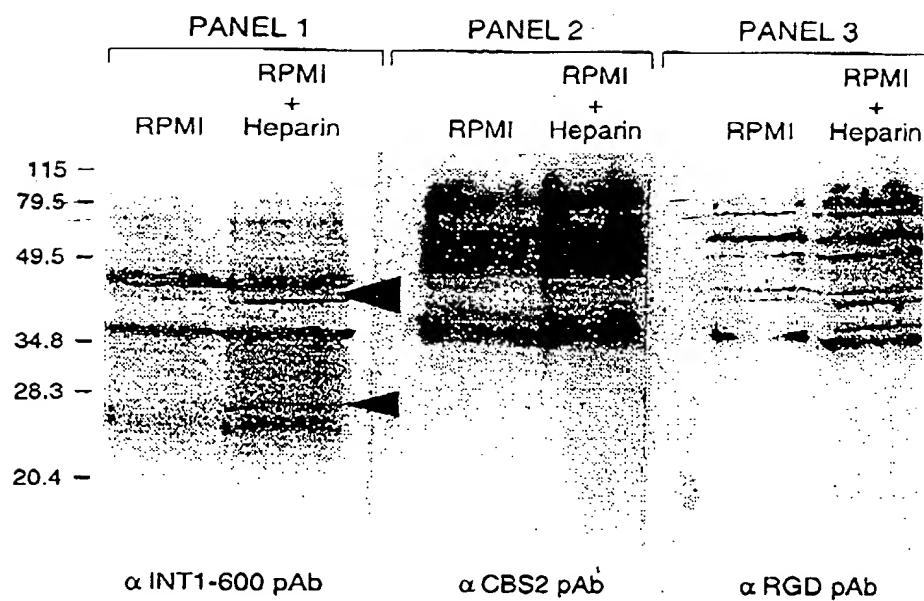


FIG. 13

SILVER STAIN

Anti 6X His WESTERN

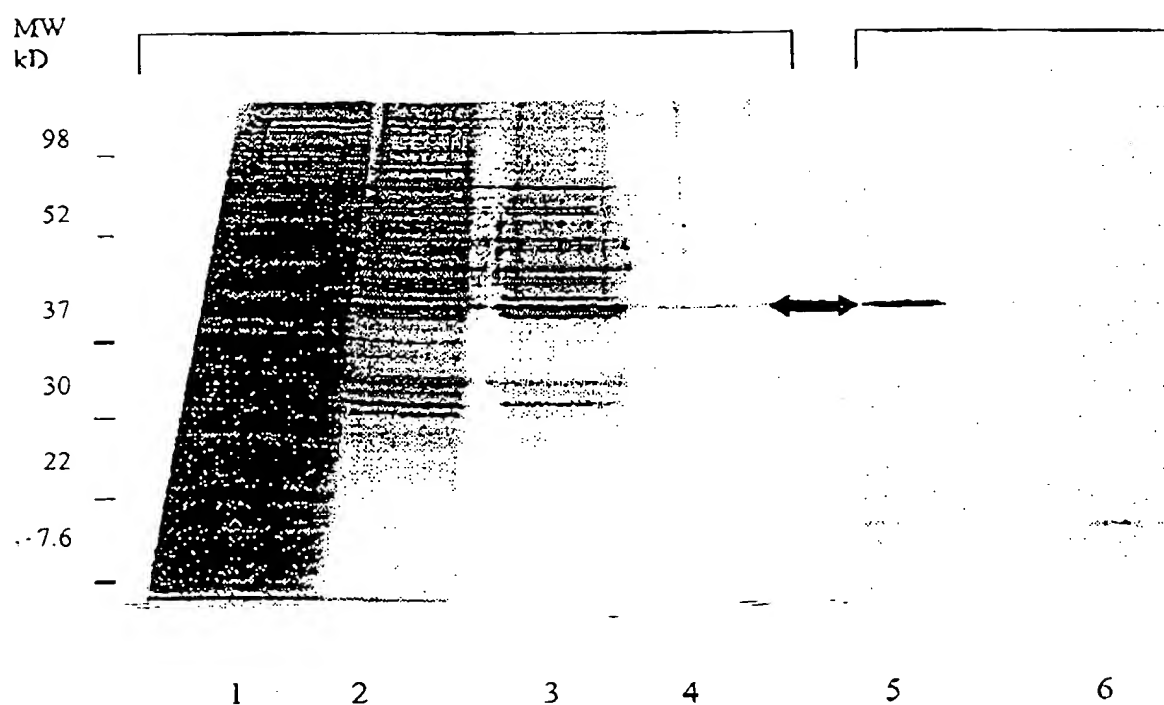


FIG. 14

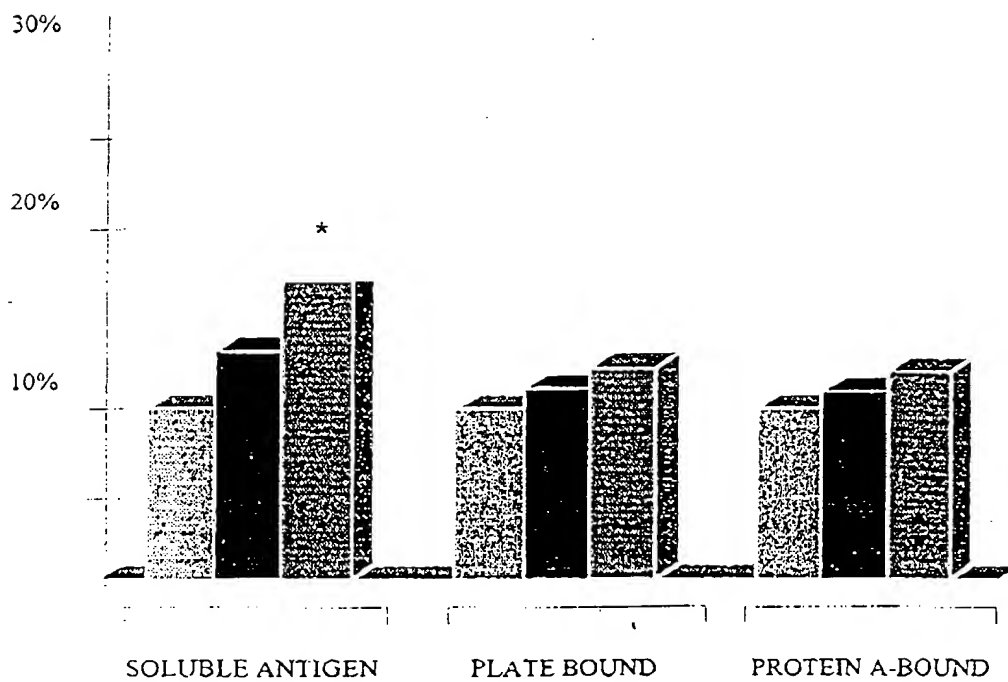


FIG. 15

Model for the Participation of Intlp in Candidemia

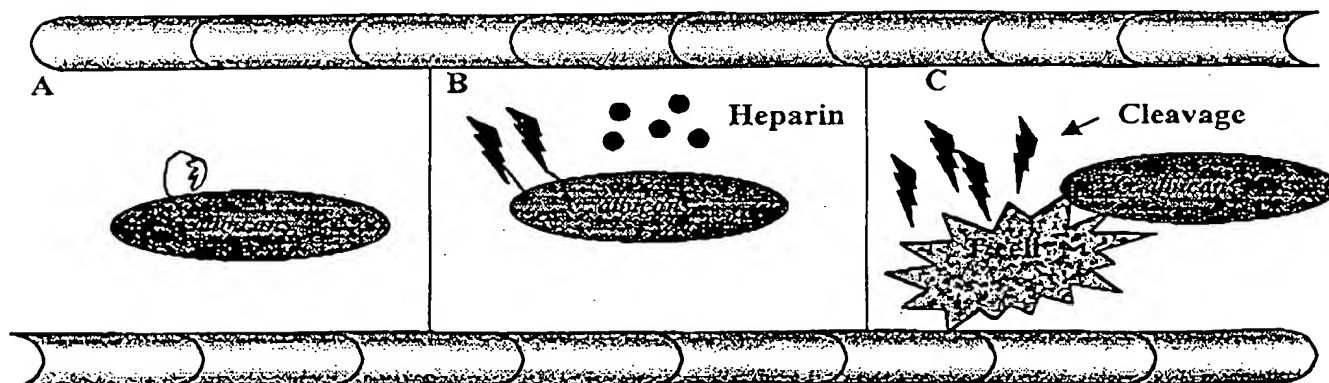


FIG. 16

MHC Class II-Binding Peptides

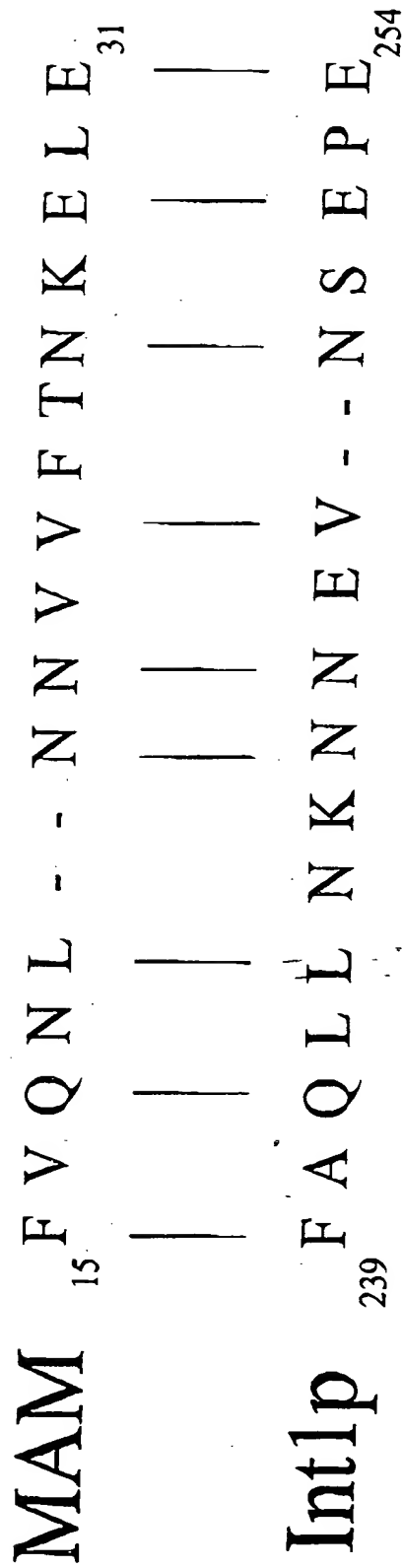


FIG. 17

Linkage of T Lymphocyte to Antigen-Presenting Cell

